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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Andrew R. Marks                      Docket No.: 5199-223  
Serial No.: 10/608,723    Examiner: Ruixiang Li  
Filed: June 26, 2003    Group Art Unit: 1646  
Title: **METHODS FOR TREATING AND PREVENTING CARDIAC  
ARRHYTHMIA**

September 15, 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO JULY 15, 2004 OFFICE ACTION  
AND PETITION FOR ONE-MONH EXTENSION OF TIME**

Sir:

A response to the July 15, 2004 Office Action was originally due on August 15, 2004. Pursuant to 37 C.F.R. § 1.136(a), Applicant hereby petitions for a one-month extension of time to respond to the Office Action. Authorization is hereby given to charge \$55.00, the fee for a one-month extension of time for a small entity, to Deposit Account No. 02-4270. With the one-month extension of time, a response to the Office Action is now due on September 15, 2004. Accordingly, this response is being timely filed.

In response to the July 15, 2004 restriction requirement, Applicant elects for further prosecution the invention of Group I, encompassing claims 1-6 and 13-18. This election is made with traverse, for the reasons set forth below, and without prejudice to Applicant's right to file divisional applications covering the subject matter of the non-elected claims.

Applicant respectfully requests reconsideration of the restriction requirement and submits that the inventions of Groups I, II, III and IV should be considered together. Claims 1-6 of Group I are generally directed to a method for treating atrial tachyarrhythmia, using an agent that inhibits protein kinase A (PKA) phosphorylation of a type 2 ryanodine receptor (RyR2) in the heart. Claims 13-18 of Group I are generally directed to a method for inhibiting the onset of atrial tachyarrhythmia, using an agent that inhibits PKA phosphorylation of an RyR2 in the heart. Group II (claims 7, 8, 19 and 20) is generally directed to methods for treating, or inhibiting the onset of, atrial tachyarrhythmia, using an agent that mimics the binding of an FKBP12.6 binding protein to an RyR2 in the heart. Group III (claims 9-11 and 21-23) is

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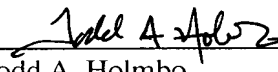
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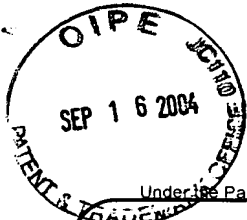
generally drawn to articles of manufacture that comprise an agent that inhibits PKA phosphorylation of an RyR2 in the heart, or an agent that inhibits dissociation of an FKBP12.6 binding protein from an RyR2 in the heart, for use in the treatment or inhibition of onset of atrial tachyarrhythmia. Finally, Group IV (claims 12 and 24) is generally drawn to articles of manufacture that comprise an agent that mimics binding of an FKBP12.6 binding protein to an RyR2, for use in treating, or inhibiting the onset of, atrial tachyarrhythmia.

Based upon the foregoing, the claims of Groups I, II, III and IV all generally relate to treating, or inhibiting the onset of, atrial tachyarrhythmia, using agents that affect various states (*e.g.*, phosphorylation state, FKPB12.6-binding state, etc.) of RyR2 in the heart. Therefore, Applicant submits that Groups I, II, III and IV (claims 1-24) should be examined together as one application, as the fields of search involved in examining these groups would, as a practical matter, be essentially co-extensive, and the best interests of the public would be served by having all of the subject matter claimed in these groups in the same application. Accordingly, reconsideration and withdrawal of the restriction requirement is respectfully requested.

No fee, other than the \$55.00 fee for a one-month extension of time for a small entity, is deemed necessary in connection with the filing of this response. Should any additional fee be required, the Commissioner is hereby authorized to charge payment of any fees associated with the subject application, or credit any overpayment, to Deposit Account No. 02-4270.

Respectfully submitted,

  
 Todd A. Holmbo  
 Reg. No. 42,665  
 Attorney for Applicants  
 BROWN RAYSMAN MILLSTEIN  
 FELDER & STEINER LLP  
 163 Madison Avenue  
 P.O. Box 1989  
 Morristown, New Jersey 07962-1989  
 973.775.8930

**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

Application Number 10/608,723

Filing Date June 26, 2003

First Named Inventor Andrew R. Marks

Art Unit 1646

Examiner Name Ruixiang Li

Attorney Docket Number 5199-223

Total Number of Pages in This Submission

**ENCLOSURES** (Check all that apply)

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Fee Transmittal Form                     | <input type="checkbox"/> Drawing(s)                                       | <input type="checkbox"/> After Allowance communication to Technology Center (TC)        |
| <input type="checkbox"/> Fee Attached  | <input type="checkbox"/> Licensing-related Papers                         | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences     |
| <input checked="" type="checkbox"/> Amendment/Reply                          | <input type="checkbox"/> Petition   | <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> After Final   | <input type="checkbox"/> Petition to Convert to a Provisional Application | <input type="checkbox"/> Proprietary Information  |
| <input type="checkbox"/> Affidavits/declaration(s)                           | <input type="checkbox"/> Power of Attorney, Revocation                    | <input type="checkbox"/> Status Letter  |
| <input type="checkbox"/> Extension of Time Request                           | <input type="checkbox"/> Change of Correspondence Address                 | <input checked="" type="checkbox"/> Other Enclosure(s) (please Identify below):         |
| <input type="checkbox"/> Express Abandonment Request                         | <input type="checkbox"/> Terminal Disclaimer                              | Return Receipt Postcard   |
| <input type="checkbox"/> Information Disclosure Statement                    | <input type="checkbox"/> Request for Refund                               |   |
| <input type="checkbox"/> Certified Copy of Priority Document(s)              | <input type="checkbox"/> CD, Number of CD(s) _____                        |   |
| <input type="checkbox"/> Response to Missing Parts/Incomplete Application    | Remarks   |   |
| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 |   |   |

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual name	Todd A. Holmbo, Reg. No. 42,665
Signature	
Date	September 14, 2004

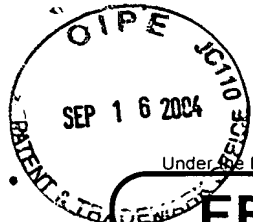
**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Maureen Elise Kelly		
Signature		Date	September 14, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ ) 55.00

## Complete if Known

Application Number	10/608,723
Filing Date	June 26, 2003
First Named Inventor	Andrew R. Marks
Examiner Name	Ruixiang Li
Art Unit	1646
Attorney Docket No.	5199-223

## METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 02-4270  
Deposit Account Name:

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1) (\$ )					

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Extra Claims Fee from below Fee Paid  
Total Claims  - 20\*\* =  X  =   
Independent Claims  - 3\*\* =  X  =   
Multiple Dependent  =

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ )

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	55.00
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) \_\_\_\_\_

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ ) 55.00

## SUBMITTED BY

Name (Print/Type)	Todd A. Holmbo	Registration No. (Attorney/Agent)	42,665	Telephone	973.775.8919
Signature		Date	September 14, 2004		

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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